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UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA  
SAN FRANCISCO DIVISION

UNITED STATES OF AMERICA,  
  
Plaintiff,

v.

PACIFIC GAS AND ELECTRIC COMPANY,  
  
Defendant.

Case No. 14-CR-00175-WHA

**PG&E'S RESPONSE TO PEOPLE'S  
STATEMENT OF FACTUAL BASIS  
IN SUPPORT OF THE PLEAS AND  
SENTENCING STATEMENT**

Judge: Hon. William Alsup

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## INTRODUCTION

PG&E accepts responsibility for the 2018 Camp Fire that killed 85 people and destroyed homes, communities and wildlife. PG&E pleaded guilty to the charges brought by the Butte County District Attorney and agreed that the grand jury investigation established a factual basis for those charges. PG&E should have found and replaced the worn C-hook that broke and caused the catastrophic fire.

Following the Camp Fire, PG&E began accelerated and enhanced safety inspections in high fire-threat areas. As PG&E acknowledged a year ago, the number of safety issues found as a result of those inspections was unacceptable. In addition to overhauling its inspection process, the Company is hardening its energy system to make it more resilient and is incorporating advanced technology to predict and detect extreme weather conditions. The increased wildfire risk in California demands, and PG&E is working to deliver, industry-leading wildfire prevention programs.

The Court has instructed PG&E to respond to the Butte County District Attorney's detailed Statement of Factual Basis ("SOFB"), accepting what is true, and indicating disagreement with those statements it believes to be contrary to the evidence. None of the assertions below is in any way intended to diminish PG&E's acceptance of, and accountability for, the Camp Fire and the devastation it caused.

### I. INITIAL TIMELINE

PG&E admits all of the statements in this Section of the Statement of Factual Basis, except lacks sufficient information to admit or deny that a second fire (the "Camp B Fire") ignited as a result of vegetation contact with PG&E's facilities.<sup>1</sup> PG&E lacks access to the relevant physical evidence, as well as the relevant reports from the California Department of Forestry and Fire Protection ("CAL FIRE") and its experts.

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<sup>1</sup> Where PG&E states that it does not have sufficient information to admit or deny an allegation, it should have the effect of a denial of the allegation. *See* Fed. R. Civ. P. 8(b)(5) ("A party that lacks knowledge or information sufficient to form a belief about the truth of an allegation must so state, and the statement has the effect of a denial.").

## II. ORIGIN AND CAUSE INVESTIGATIONS

PG&E admits all of the statements in this Section, except lacks sufficient information to admit or deny statements regarding the Camp B Fire other than to admit that PG&E's Big Bend 1101 12 kV Distribution Circuit experienced an outage at 6:45 a.m. on November 8, 2018. PG&E does not have access to the analyses, reports, data and physical evidence on which these conclusions regarding the Camp B Fire are based, including relevant reports from CAL FIRE and its experts and the Ponderosa pine tree examined by CAL FIRE's retained arborist.

## III. INJURIES AND LOST LIVES

PG&E admits all of the statements in this Section.

## IV. BACKGROUND OF THE FAILED COMPONENT

### A. History of the Caribou-Palermo 115 kV Transmission Line

PG&E admits that, at the time of the Camp Fire, structures on the section of the Caribou-Palermo Line from the Caribou Powerhouse to the Big Bend Switching Station (the "Caribou-Big Bend section") had components of original vintage. PG&E records indicate that insulators were replaced on transmission towers on the Caribou-Palermo Line in the decade preceding the Camp Fire, including on the Caribou-Big Bend section. As to statements to the effect that PG&E did not "catalogue" components before the Camp Fire, PG&E clarifies that it identified splices on the Caribou-Palermo Line conductor and recorded changes in conductor size and type in various locations.

PG&E does not have sufficient information to admit or deny that "the transposition components on Tower [:]27/222, including the transposition arms, C hooks, insulator strings and jumper conductor, were original components in service since 1921", or that the "insulator string hanging from the C hook that broke on November 8, 2018 was an original 1921 insulator", as the available records and evidence are not conclusive as to their date of installation. (SOFB at 17.)

PG&E denies that it “had little or no information” regarding the “conductor and the hooks, original hanger holes and bolted-on hanger hole plates supporting that conductor”. (*Id.*) PG&E produced engineering drawings and manufacturer catalogs that include information on the characteristics of these components.

**B. C Hook and Hanger Hole Wear**

PG&E admits that transposition runner arms, hanger plates, insulators and C-hooks were removed from Towers :27/222, :20/160, :24/199, :32/260 and :35/281 on the Caribou-Palermo Line and collected as evidence by investigators with CAL FIRE and the Butte County District Attorney’s Office. PG&E admits that C-hooks and hanger plates removed from Towers :27/222, :20/160, :24/199 and :35/281 were worn. PG&E admits that it does not have records of work done on the jumper conductor on Tower :24/199 to “shorten[ it] and splice[ it] together using a parallel groove connector”, (SOFB at 19), and PG&E therefore lacks sufficient information to admit or deny that any such work was done.

PG&E cannot admit or deny the remainder of this Section of the Statement of Factual Basis. It consists of observations, conclusions, analyses, inferences, testing results and opinions attributed to an FBI metallurgist, investigators with CAL FIRE and the Butte County District Attorney’s Office, and a meteorologist and engineer retained by the Butte County District Attorney, none of which are matters within PG&E’s knowledge. PG&E does not have access to the physical evidence or the analyses, tests, models and data on which the conclusions in this Section are based, including the FBI’s metallurgical tests on components removed from Towers :27/222 and :24/199, Light Detection and Ranging scans of Towers :27/222 and :24/199 taken by CAL FIRE, the referenced “computer model of Tower [:]27/222” and “wind load model of the Feather River canyon”, (*id.* at 20), and components from Towers :27/222, :20/160, :24/199, :32/260 and :35/281 that were seized by CAL FIRE and the Butte County District Attorney’s Office.

PG&E denies that “[t]he hooks were intended to fit snugly into the holes”. (*Id.* at 18 n.25.) As the Statement of Factual Basis notes, there was “space between [t]he top of the C hook and the top of the hole”. (*Id.* at 18.)

#### V. INSPECTION AND PATROL POLICIES

PG&E unreservedly accepts responsibility for the Camp Fire, but denies certain allegations in the Statement of Factual Basis concerning its past inspection and patrol policies. As to certain other allegations, PG&E does not have sufficient information to admit or deny them. Those statements are identified and addressed below.

PG&E denies that it “did not, in fact, follow the procedures and requirements established in the [Electric Transmission Preventive Maintenance (‘ETPM’) Manual]” and that “sections of the ETPM relating to inspections and patrols of overhead electric transmission lines were simply a façade created to meet the requirements of the regulators and the CAISO”. (SOFB at 25.) PG&E personnel formulated the procedures and requirements in the ETPM Manual in good faith to maintain PG&E’s transmission system. PG&E instructed its employees to follow the ETPM Manual.

PG&E does not have sufficient information to admit or deny that a PG&E troubleman who worked in the Feather River Canyon between 1987 and 1995 “established the Caribou-Palermo line was considered a ‘Class B Circuit’” and, as a result, was “required to be patrolled three times each year”. (*Id.*) PG&E has not identified any documents from that period that support the troubleman’s assessment of the Caribou-Palermo Line as a Class B Circuit or otherwise permit a determination that the line was so classified.

Similarly, PG&E does not have sufficient information to admit or deny the accuracy of the following statement:

“Former PG&E Transmission Line Supervisors from 1987 noted the checklist inclusion of ‘worn hardware’ was a result of a 1987 PG&E Laboratory Test Report documenting a worn C hook and hanger hole from a Bay Area transmission tower. Photos of the worn C hooks and holes were distributed to troublemen in all of the PG&E regions for training purposes, and inspection of C hooks and hanger holes was made a specific priority during inspections/patrol.”

1 (*Id.* (footnotes omitted).) The referenced testimony cites events that occurred more than 30 years  
2 ago, including photographs that may have been distributed to troublemen and specific priorities  
3 during inspections and patrols. It does not appear that any documents corroborating this  
4 testimony were presented to the grand jury, and PG&E cannot independently verify the accuracy  
5 of the statement given the passage of time.

## 6 **VI. REDUCTION OF UNIT COSTS FOR INSPECTIONS AND PATROLS**

7 PG&E acknowledges that it established a committee in 2013 to explore  
8 opportunities to make transmission inspections more cost-efficient. As the Statement of Factual  
9 Basis itself makes clear, PG&E ultimately did not reduce the frequency of its transmission  
10 inspections and patrols as a result of that evaluation. (SOFB at 26.)

11 PG&E admits that it used “unit cost measurement” to calculate the costs of  
12 inspections and patrols. Unit cost measurement is a tool commonly used in many industries to  
13 measure production costs. PG&E determined unit costs for inspections and patrols based on the  
14 time spent by troublemen inspecting or patrolling each structure. Unit costs were determined for  
15 each maintenance headquarters based on the hours typically charged by that headquarters for  
16 inspections and patrols in past cycles, without regard to factors specific to each transmission line.  
17 PG&E denies that a reduction of unit costs for inspections and patrols was intended to be  
18 “accomplished by reducing the thoroughness of the inspections and patrols” or that the reduction  
19 of unit cost targets resulted in “less thorough and less complete inspections and patrols” of the  
20 Caribou-Palermo Line. (*Id.* at 27.)

21 Before the Camp Fire, PG&E’s Business Finance Department sent transmission  
22 line maintenance supervisors and superintendents color-coded monthly budget reports that  
23 tracked unit costs for inspections and patrols in their regions. The Business Finance Department  
24 did not, however, send such reports to the troublemen who conducted inspections. Unit costs  
25 were one of many factors that influenced incentive compensation for transmission line  
26  
27  
28



1 supervisors and superintendents, together with achievement of the Company's safety, reliability,  
2 affordability and customer satisfaction goals.<sup>2</sup>

### 3 **VII. TROUBLEMEN AND TRAINING**

4 Before the Camp Fire, C-hook wear was not a commonly reported failure mode  
5 and failures of C-hooks in the field were relatively rare. Since the Camp Fire, PG&E has  
6 conducted a risk-based analysis of component types and introduced, along with drone technology  
7 and digital inspection forms, new training programs that guide inspectors and post-inspection  
8 review teams on how to identify and assess wear, including on C-hooks and hanger plates.

9 For certain findings in this Section of the Statement of Factual Basis, PG&E  
10 either denies the findings, states that it has insufficient information to admit or deny the findings,  
11 or offers additional context. These findings are identified and addressed below.

12 PG&E denies that it "eliminat[ed]" or "dropped" training requirements for  
13 troublemen. (SOFB at 28-29.) The Statement of Factual Basis notes that "the evidence does  
14 show that PG&E had created a Troubleman training program." (*Id.* at 28.) The Statement of  
15 Factual Basis cites the paraphrased testimony of a former employee in support of the statements  
16 that "a decision was made in 2005 to eliminate direct training of Troublemens" and that  
17 "Transmission Line Supervisors were provided training and expected to train the Troublemens  
18 under their supervision". (*Id.* at 29.) PG&E is not aware of any such decision to eliminate direct  
19 training. As noted below, troublemen have continued to receive formal training on how to  
20 conduct inspections and patrols.

21 PG&E denies statements to the effect that troublemen did not "receiv[e] any  
22 formal training", that there was a "lack of specific training and records", and that training  
23 concerning inspections was "limited to filling out reporting forms and notifications" and  
24 "informal mentoring". (*Id.* at 29-30.) Before the Camp Fire, PG&E administered training to  
25 troublemen through a combination of on-the-job learning and formal educational modules that

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26  
27 <sup>2</sup> PG&E no longer sends these color-coded monthly budget reports to supervisors and  
28 superintendents and no longer considers adherence to unit cost targets in determining incentive  
compensation for these personnel.

1 included exemplar photographs of conditions to be identified and reported. The notion that  
2 troublemen in general, and the troublemen who inspected the Caribou-Palermo Line in  
3 particular, received no “formal training on how to perform an inspection or patrol” is  
4 contradicted by PG&E training records and testimony elicited during the grand jury proceedings.  
5 For example, one troubleman testified that he received additional training on how to inspect  
6 transmission lines when he was promoted to the position of transmission troubleman and that  
7 ongoing training was regularly provided. Another troubleman who patrolled the  
8 Caribou-Palermo Line testified that he had received training in the ETPM Manual, including  
9 guidance on conditions to be identified and their prioritization. That same troubleman testified  
10 that the training materials included photographs of specific conditions to look for during  
11 transmission inspections and patrols. Moreover, PG&E records indicate that troublemen who  
12 inspected or patrolled the Caribou-Palermo Line completed formal training on inspections.

13 PG&E disagrees with the unsupported statement that troublemen’s lack of  
14 knowledge of size differences in working eyes “contributed greatly” to the failure to identify and  
15 replace the C-hook on Tower :27/222. (*Id.* at 30.)

16 PG&E also denies the following statements:

17 “The evidence established that, despite the lofty goals of the  
18 originators of the troubleman position, and the designation of QCR  
19 by PG&E, by 2007 the inspections and patrols of the  
20 Caribou-Palermo line were being conducted by inexperienced,  
21 untrained and unqualified troublemen. Both of the Detailed  
22 Ground Inspections (2009 and 2014) and seven of the ten Annual  
23 Air Patrols on the Caribou Palermo were completed by  
24 troubleman [sic] who had little or no prior transmission experience,  
25 and no formal training on performing inspections and patrols. This  
26 is contrary to the third Revision of the ETPM which requires that  
27 the ‘QCRs must be thoroughly familiar with all of the facilities,  
28 equipment, safety rules and procedures associated with the  
facilities and equipment.’ . . . . The majority of the  
troubleman [sic] sent to inspect and patrol the Caribou-Palermo  
line had no idea what the C hooks and hanger holes were supposed  
to look like. Because of their lack of knowledge, experience, and  
training, the troubleman [sic] could not have been expected to  
identify the wear. The overwhelming evidence clearly established  
that troublemen and linemen inspecting and patrolling the

Caribou-Palermo line did not meet the standards established in the ETPM.”

(*Id.* at 30-31.) As noted above, PG&E records confirm that the troublemen who patrolled and inspected the Caribou-Palermo Line had received formal training in inspections. Further, the troublemen with experience working on distribution lines had skills and knowledge that were transferable to their work on transmission lines. A number of other troublemen who inspected and patrolled the Caribou-Palermo Line had relevant experience working on transmission lines. Several previously served on linemen crews that performed routine maintenance on transmission lines, including replacements of insulators and C-hooks.

# **VIII. FAILURES IN MAINTENANCE, REPAIR AND REPLACEMENT RECORD KEEPING ON THE CARIBOU-PALERMO LINE**

## **A. Hanger Brackets**

PG&E admits that hanger brackets were added to the transposition runner arms of Towers :27/222 and :24/199 and that it is reasonable to infer they were added to address wear observed on the original hanger plates. PG&E acknowledges that whoever did this work likely would have been aware of material loss on the original hanger plates. PG&E admits that it was unable to locate any records of when, why and by whom the hanger brackets were installed.

## **B. Parallel Groove Connectors**

PG&E does not have sufficient information to admit or deny the following statements concerning parallel groove connectors and other equipment removed from Tower :24/199, a tower miles away from the Camp Fire ignition point:

“As previously mentioned, during the inspection of Tower [:]24/199 investigators noticed a parallel groove connector on the jumper conductor. It appeared to investigators that, at some previous time the jumper conductor had been shortened and spliced together using the parallel groove connector. Investigators also observed that the right phase insulator string appeared to be less aged than the left phase insulator and, as a result of the shorter jumper conductor, was not hanging plumb. From the ground, investigators also observed black marks on the tower leg nearest the right phase insulator string. On the ground below Tower [:]24/199, investigators found an old insulator string. The old insulator string was complete except for the C hook.

1 “Based upon the observations of investigators, the only reasonable  
2 conclusion that could be drawn is that at some time in the past the  
3 jumper conductor made contact with the tower leg, causing the  
4 blackening observed on the tower leg. This damaged the jumper  
5 conductor, necessitating the removal of a portion and replacement  
6 of the insulator. It was also clear, based upon the change in the  
7 wear pattern on the C hook observed by the FBI metallurgist, the  
8 C hook was not replaced when the jumper conductor was  
9 shortened and the insulator changed.”

10 (SOFB at 32.) These are opinions that a series of events occurred at Tower :24/199 “at some  
11 time in the past”, as well as an FBI metallurgist’s observations of a “change in the wear pattern”  
12 on a C-hook on that tower. Investigators for the Butte County District Attorney took custody of  
13 the equipment on Tower :24/199 described above. PG&E does not have access to the equipment  
14 or the analyses on which the investigators based their conclusions. Moreover, the observations  
15 and inferences of the District Attorney’s investigators are not matters within PG&E’s knowledge  
16 and cannot be admitted or denied.

17 The Statement of Factual Basis recounts that “as part of a scheduled Detailed  
18 Ground Inspection in 2009, the troubleman assigned to complete the inspection of the  
19 Caribou-Palermo line was instructed to document all towers with parallel groove connectors and  
20 create work orders for replacement of the parallel groove connectors.” (*Id.*) PG&E clarifies that  
21 the troubleman was tasked with documenting the existing three-bolt connectors on the  
22 Caribou-Palermo Line in advance of their replacement with a different type of connector.  
23 Three-bolt connectors and parallel groove connectors are different types of connectors. Neither  
24 type of connector is the same type of hardware that failed and caused the Camp Fire.

25 According to the Statement of Factual Basis, “[t]he question of how a troubleman  
26 flying in a helicopter could assess the wear inside the bolted connectors was never answered.”  
27 (*Id.* at 33.) PG&E denies the implication that the purpose of the 2011 Annual Air Patrol was to  
28 identify “wear inside the bolted connectors” as opposed to the conditions of the connectors and  
other equipment more generally, including any outward signs of degradation. PG&E performed  
five separate infrared inspections of the Caribou-Palermo Line after the connectors were

1 identified for replacement in 2009. As the Statement of Factual Basis notes, such inspections  
2 can identify “excessive heat” caused by “[i]nterior wear” in a connector. (*Id.* at 33 n.69.)

3 PG&E denies statements to the effect that Priority Code F “did not come into  
4 existence until January 2011”. (*Id.* at 34.) Although Priority Code F did not appear in the  
5 ETPM Manual until the January 2011 revision of that document, the priority code itself was  
6 active in PG&E’s systems prior to that time and available for use as of October 2009. PG&E  
7 further denies the conclusion that “[t]his raised serious questions as to the accuracy of the few  
8 maintenance/repair/replace records PG&E was able to locate.” (*Id.*) There is no identified  
9 inaccuracy in the records cited.

10 As to the time taken to replace the connectors, PG&E denies the inference that  
11 any “explanation for the extended amount of time” was required by the ETPM Manual. (*Id.*  
12 at 34.) As stated in the “Reassessments” section of the 2011 ETPM Manual, certain types of  
13 Priority Code F “conditions do not require reassessment in the field because they do not change  
14 over time, do not pose an immediate impact to circuit reliability, or are used primarily to  
15 document field conditions for programmatic use by the asset strategy group.”

16 PG&E admits that one of the connectors on Tower :24/199 “was not replaced  
17 when all of the other parallel groove connectors in the tower were replaced in 2016”. (*Id.* at 32.)  
18 Photographs of Tower :24/199 taken after the Camp Fire show that other three-bolt connectors  
19 on the tower were replaced with parallel groove connectors, consistent with a June 18, 2016  
20 Corrective Work Form documenting the replacement.

21 PG&E does not have sufficient information to admit or deny the accuracy of the  
22 following observations made by the Butte County District Attorney’s investigators:

23 “While inspecting the Caribou-Palermo line in February and  
24 March 2019 investigators noted another tower in which the  
25 insulator strings had recently (post Camp Fire) been changed but  
26 the C hooks were re-used.”  
27  
28

(*Id.* at 32 n.65.) Absent further investigation, and without additional information such as the tower number, PG&E cannot determine when the insulator string on this unspecified tower was replaced or whether the C-hook was reused as alleged.

**C. The “Deteriorated Transmission Equipment Replacement Program”**

PG&E denies that it misrepresented the purpose of any programs for transmission lines. Based on the cited testimony of one of the employees familiar with the program, there were unclaimed funds in the Deteriorated Transmission Equipment Replacement Program that were available for use to replace capital assets more generally. The employee further testified that it was not unusual for PG&E to make unused funds available for other capital projects within the Company’s five-year plan for transmission assets.

**D. The Caribou-Palermo 7/55-8/64 Replacement Towers Project**

Caribou-Palermo Towers :7/55 to :8/64 were at one time slated for relocation due to access issues. PG&E ultimately determined that relocation of these specific structures was unnecessary because they could be made accessible through roadwork. The towers within the scope of this project were miles away from the tower at which the Camp Fire originated.

PG&E denies any implication that the structures slated for relocation were at imminent risk of failure. As the Statement of Factual Basis notes, the authors of the quoted emails disavowed that interpretation of their communications. (SOFB at 36.) PG&E further denies the implication that it failed to address the condition of the towers that remained in place. After the decision was made not to relocate the towers, PG&E replaced insulators and conductor hardware on the tower spans.

PG&E denies that the Maintenance and Construction Engineer who worked on the relocation project had “no engineering . . . experience”. (*Id.* at 35 n.71.) While he did not have formal engineering qualifications, he had years of experience working on a variety of electric transmission projects.

1           **E.     The Rock Fire**

2           PG&E denies that it had a “practice” of “not conduct[ing] climbing or aerial  
3 inspections on other Caribou-Palermo line towers with similar connectors”. (SOFB at 37.) The  
4 Caribou-Palermo Line was subject to yearly aerial patrols and regular infrared patrols by air that  
5 are capable of detecting connector abnormalities. At least five infrared patrols were conducted  
6 after the Rock Fire in September 2008, including one that occurred less than three weeks after  
7 the Rock Fire. PG&E disagrees with the statement that no records of a root cause investigation  
8 were found. PG&E produced to the grand jury an October 6, 2008 Electric Event Report  
9 concerning the Rock Fire.

10           **F.     Tower Collapse**

11           PG&E admits that five towers on the Caribou-Palermo Line collapsed during a  
12 storm in December 2012, and that a sixth tower sustained damage that necessitated its  
13 replacement. PG&E denies that “[t]he evidence established none of the other Caribou-Palermo  
14 line tower foundations were inspected”. (SOFB at 37.) In the time between the collapse of the  
15 towers in December 2012 and their permanent replacement in 2016, structures on the  
16 Caribou-Palermo Line were subject to a detailed inspection, three routine aerial patrols, five  
17 non-routine ground patrols, eight non-routine aerial patrols, and two emergency ground patrols.  
18 The ETPM Manual instructs personnel performing such inspections and patrols to inspect tower  
19 foundations for abnormalities, and notifications were generated after the 2012 tower collapse for  
20 foundation conditions on the Caribou-Palermo Line. Based on this evidence, PG&E denies the  
21 allegation that PG&E had a “practice of not following up on clearly established potential safety  
22 and/or maintenance issues”. (*Id.* at 38.)

23           **G.     Center Phase Conductor on Tower :24/200**

24           PG&E denies the statements in this Section concerning Tower :24/200, a tower  
25 miles away from the Camp Fire origin point. As indicated on the work order produced to the  
26 Butte County District Attorney, the damaged conductor on Tower :24/200 was identified on  
27 January 10, 2017 and repaired on May 1, 2017, not in 2014, as stated in the Statement of Factual  
28



1 Basis. (SOFB at 38.) Based on the referenced photograph, which shows pitting damage to the  
 2 conductor, PG&E denies the implication that the “corona shield specifically” and “hot end  
 3 attachment hardware generally” also warranted replacement. (*Id.*) PG&E further denies the  
 4 implication in the Statement of Factual Basis that it should have conducted “a root cause analysis  
 5 . . . to determine the cause of the damage to the conductor and corona shield”. (*Id.*) As indicated  
 6 on the face of the records, the conductor was damaged during a storm.

#### 7 **H. Broken J Hook**

8 PG&E admits that, in October 2016, a contractor aloft Tower 11/99 nearly lost his  
 9 footing when a corroded J-hook broke. The J-hook that failed did not support an insulator or any  
 10 energized equipment. Rather, it was used to connect flat bracing to the tower leg. PG&E denies  
 11 that it had a “practice” of not inspecting equipment on similar towers after an equipment failure.  
 12 (SOFB at 38.) PG&E records show that PG&E investigated the incident and sent an alert to  
 13 employees advising them to exercise caution when working on or near towers fitted with J-hook  
 14 hardware and to take “[s]pecial care to inspect the condition of the hardware prior to applying  
 15 force”.

#### 16 **IX. INSPECTION AND PATROL OF THE CARIBOU-PALERMO LINE**

17 PG&E denies that “[t]here is no record of any climbing inspections . . . conducted  
 18 on the Caribou-Big Bend section of the [Caribou-Palermo 115 kV] transmission line.” (SOFB  
 19 at 39.) PG&E records produced to the grand jury indicate that more than 30 of the 80  
 20 Caribou-Palermo towers subject to climbing inspections before the Camp Fire were on the  
 21 Caribou-Big Bend section of the line. Moreover, in March 2010, PG&E personnel conducted  
 22 climbing inspections of the 10 towers identified for relocation, all of which are on the  
 23 Caribou-Big Bend section.

24 The Statement of Factual Basis states that the 2014 detailed ground inspection  
 25 was completed by “a troubleman and a lineman”. (*Id.*) PG&E clarifies that the inspection was  
 26 performed by a transmission troubleman with years of experience and a temporary troubleman  
 27 who qualified for the position by virtue of his experience as a journeyman transmission lineman.  
 28



1 PG&E denies the following statement:

2 “The lineman assigned to assist with the 2014 Detailed Ground  
3 Inspection of the Caribou-Palermo line had previously completed  
4 some troubleman training but focused mainly on ‘Switching.’ The  
5 lineman did not recall receiving any training on performing  
6 inspections and patrols other than informal training by troublemen.  
No evidence was found to establish the four other linemen who  
performed inspections had previously completed any training on  
inspection and patrol.”

7 (*Id.* at 40.) As stated above, PG&E had programs in place for the formal training of transmission  
8 troublemen. PG&E training attendance records indicate that the temporary troubleman in  
9 question completed formal training on overhead transmission patrols and inspections in  
10 December 2013 (before the detailed ground inspection of the Caribou-Palermo Line in  
11 August 2014). The four linemen who assisted with the 2014 detailed inspection completed that  
12 same training between 2013 and 2016. PG&E understands that the participation of three of these  
13 four linemen in the 2014 ground inspection was limited to providing transportation and support  
14 at a helicopter landing zone.

15 PG&E denies the accuracy of the following statements:

16 “Written documents clearly establish the Table Mountain  
17 Transmission Line Supervisor knew the dates inspected on the  
18 Transmission [Line] Object List were wrong. Written documents  
19 also clearly established that he knew that for some of the towers  
20 the name of the inspector conducting the inspection was wrong.  
21 The evidence also establishes he knew the line clearance  
measurements did not occur on the dates listed on the  
Transmission [Line] Object List. Despite specific knowledge the  
report was not accurate; the transmission line supervisor approved  
and signed the report.”

22 (*Id.* at 41.) PG&E is not aware of any “written documents” that “clearly establish” the  
23 Transmission Line Supervisor had “specific knowledge” of inaccuracies in the Transmission  
24 Line Object List for the 2014 detailed inspection when he “approved and signed the report”. No  
25 such documents are cited, and the District Attorney did not elicit any testimony from the  
26 Transmission Line Supervisor in question that supports this statement.

PG&E admits that records for the 2012 annual aerial patrol did not identify a second troubleman who assisted with that patrol when the originally assigned troubleman went out on leave, but denies the suggestion that the records were “inaccurate” in other respects or had other unspecified “issues”. (*Id.* at 41-42.)

PG&E does not have sufficient information to admit or deny that “[t]he evidence established the thoroughness of the aerial patrols declined through the years”. (*Id.* at 42.) This statement is based in part on “helicopter flight records for 2011 through 2018 for Caribou-Palermo line aerial patrols [that] were obtained from a local helicopter company contracted by PG&E to assist with aerial patrols.” (*Id.*) Those records have not been provided to PG&E. This statement is also based in part on the memories of two former troublemen who conducted aerial patrols 19 or more years ago. (*Id.*)

PG&E does not have sufficient information to admit or deny the following statements:

“One former troubleman admitted he did not like flying the Feather River Canyon transmission lines and, whenever possible, assigned an available lineman to complete the routine air patrols. According to the former troubleman, after the lineman completed the air patrol the troubleman would use the lineman’s notes to complete the patrol report and submit the report as if the former troubleman had personally completed the patrol.”

(*Id.*) Based on review of the grand jury transcripts, PG&E cannot identify the paraphrased testimony of the former troubleman in question. Absent further investigation and without details sufficient to identify the records at issue, PG&E cannot admit or deny the accuracy of the former troubleman’s account.

PG&E does not have sufficient information to admit or deny that a “recently retired troubleman” who conducted aerial patrols “was only confirming the structures and components were ‘standing upright’”. (*Id.* at 43.) Based on review of the grand jury transcripts, PG&E cannot identify the paraphrased testimony.

1 PG&E denies that “even if the troublemen had looked at the C hooks and hanger  
2 holes, without knowledge as to their respective sizes, the troublemen would not have been able  
3 to assess wear”. (*Id.* at 44 n.89.) That statement lacks a basis in the evidence.

4 Contrary to the Statement of Factual Basis, the occurrence of a “trigger” as  
5 defined in the ETPM Manual does not “require” a climbing inspection. Rather, “triggers are  
6 specific conditions that require *follow-up inspections and/or maintenance* scheduled by the  
7 supervisor, independent of the routine schedule”. (*Id.* at 44 (emphasis added).) Such “follow-up  
8 inspections and/or maintenance” may include, but are not limited to, climbing inspections. Other  
9 forms of “follow-up inspections and/or maintenance” include non-routine ground and aerial  
10 patrols, infrared patrols, and repairs.

11 PG&E further denies that “storm related interruptions”, “equipment failures” and  
12 other events on the Caribou-Palermo Line from 2008 to March 2018 were “sufficient to trigger  
13 climbing inspections”. (*Id.* at 45.) As noted above, the occurrence of a “trigger” did not require  
14 climbing inspections where other forms of “follow-up inspections and/or maintenance . . .  
15 independent of the routine schedule” were sufficient to address the triggering event. Events  
16 identified as triggers in the Statement of Factual Basis did prompt follow-up inspections or  
17 maintenance outside the routine schedule, consistent with the ETPM Manual. After the collapse  
18 of five towers on the Caribou-Palermo Line in December 2012, PG&E performed a non-routine  
19 ground patrol of the affected area. Concerns relating to connector types led PG&E to replace  
20 three-bolt connectors on the Caribou-Palermo Line with parallel groove connectors. PG&E  
21 replaced the conductor on Tower :24/200 that was damaged during a storm in January 2017. In  
22 response to the failure of a connector that was identified as a potential cause of the  
23 September 2008 Rock Fire, PG&E investigated the cause of the failure and conducted an  
24 infrared patrol of the Caribou-Palermo Line three weeks later.

25 PG&E denies the following statements:

26 “Although several PG&E transmission line employees referred to  
27 the ETPM as ‘The Bible’ and asserted strict compliance with the  
28 standards and policies of the ETPM, the totality of the evidence  
shows that on the Caribou-Palermo line, the ETPM was not

1 followed. Because PG&E had inexperienced, untrained and  
2 uninformed personnel conducting inspections and patrols under  
3 unrealistic time constraints, the inspections and patrols did not spot  
defects and wear.”

4 (*Id.* at 45-46.) PG&E agrees that past inspections failed to identify defects that were found in  
5 enhanced inspections in 2019. However, the cited evidence does not show that failure resulted  
6 from personnel not following the ETPM Manual. As noted above, the troublemen who inspected  
7 and patrolled the Caribou-Palermo Line were not “inexperienced, untrained and uninformed”.

8 PG&E does not have sufficient information to admit or deny that “a PG&E Tower  
9 Department supervisor” who was interviewed by the District Attorney “could not provide any  
10 reason or rationale for the work order” calling for non-routine climbing inspections of the  
11 Caribou-Palermo Line. (*Id.* at 46.) PG&E has not been provided with a transcript or record of  
12 the interview and thus cannot admit or deny the reported account of the interview. PG&E denies  
13 that “PG&E was unable to provide any further information” regarding the non-routine climbing  
14 inspections and that it “has no explanation for how or why or by whom the decision to conduct  
15 climbing inspections was made”. (*Id.*) As PG&E explained in a written response to the CPUC  
16 that was produced to the District Attorney, the non-routine climbing inspections were “part of an  
17 effort to assess the condition of its transmission lines and help inform its broader asset  
18 management strategy”. In addition, PG&E produced emails identifying the individuals who  
19 selected lines for climbing inspections as part of this effort.

20 PG&E denies the following statements:

21 “As to many decisions and policies, PG&E was unable to provide  
22 any documentation as to who made the decision, how the decision  
23 was made and upon what the decision was based. This inability to  
24 determine who made decisions and upon what those decisions  
25 were based, frustrated efforts to identify individuals potentially  
personally liable for policies that lead [sic] to the conditions which  
caused the Camp Fire.”

26 (*Id.* at 46-47.) PG&E cooperated fully with the grand jury investigation, including by making  
27 witnesses available for voluntary interviews and providing extensive document discovery in  
28

1 response to informal requests and grand jury subpoenas. Many of the produced emails and other  
 2 documents described capital projects and maintenance work on the Caribou-Palermo Line,  
 3 memorialized decisions regarding that work, and identified the relevant decision makers.

4 **X. COMPARISON OF CARIBOU-PALERMO WITH OTHER TRANSMISSION**  
 5 **LINES**

6 The Exponent Report does not support the conclusion that “the Caribou-Palermo  
 7 line was only marginally worse than other comparison transmission lines”. (SOFB at 47.) That  
 8 conclusion does not appear in the Exponent Report. Exponent concluded that the  
 9 “Caribou-Palermo line and other North Fork Feather River Canyon lines appear to have a unique  
 10 set of factors that contributed to increased rates of high-priority cold-end hardware tags relative  
 11 to other comparison lines”. (CPUC Incident Investigation Report, Nov. 8, 2019, Attachment N,  
 12 Exponent Report on PG&E Caribou-Palermo Asset Condition Investigation, Nov. 1, 2019,  
 13 at 76.) As enumerated in the report, that unique set of factors included “design (link connectors  
 14 and a relatively large number of non-tensioned insulated conductors), long-duration exposure to  
 15 higher winds, age, and historical inspection methodologies”. (*Id.*)

16 PG&E admits that its 2019 Wildfire Safety Inspection Program (“WSIP”)  
 17 identified thousands of conditions in need of repair on PG&E’s system that had not been  
 18 previously identified. (SOFB at 47.) As PG&E has acknowledged, the number of safety issues  
 19 identified was unacceptable. However, PG&E denies as vague, overbroad and unsupported the  
 20 statements that “PG&E’s problems were systemic as opposed to local”, (*id.*); that “the  
 21 Caribou-Palermo line specifically and the Table Mountain District in general are not outliers”,  
 22 (*id.* at 51); that “the lack of thorough inspections and patrols on the Caribou-Palermo line was a  
 23 systemic problem not a local problem”, (*id.*); that “the local Table Mountain District troublemen  
 24 and linemen were not doing less than the troublemen and linemen assigned to other districts  
 25 involved in the study”, (*id.* at 49); and that “inspections and patrols on other lines are only  
 26 marginally more thorough than those done on the Caribou-Palermo line”, (*id.* at 51).

PG&E further denies that past inspections were not conducted in accordance with the ETPM Manual. There are reasons other than past non-adherence to the ETPM Manual why conditions would be identified for the first time during the enhanced WSIP inspections. For example, the enhanced inspection methods may have provided a better vantage point for detecting the condition; the risk-based assessment of components and new inspection forms may have helped focus the inspectors' attention on the condition; or post-inspection review teams may have found conditions not identified in the field.

## **XI. BUDGETARY CONSIDERATIONS**

### **A. Expense Budget**

PG&E agrees that it "consistently increased its budget for maintenance, repair and replacement of transmission assets" from 2007 through 2018. (SOFB at 51.) PG&E disagrees with the generalized assertion in the Statement of Factual Basis that "PG&E was **not** using the money to replace the oldest and most deteriorated transmission assets". (*Id.* at 52 (emphasis in original).) PG&E denies the related suggestion in the Statement of Factual Basis that senior leaders in Transmission Asset Management gave incorrect testimony before the Federal Energy Regulatory Commission ("FERC") regarding PG&E's use of funds to replace aging and deteriorating assets. (*Id.*) PG&E's filings with FERC corroborate the quoted testimony and show that PG&E spent significant sums to replace aging and deteriorated transmission equipment. The Statement of Factual Basis alleges that PG&E did not fund replacement of the "most deteriorated" assets, but does not define what is meant by "most deteriorated" in this context. Moreover, the quoted testimony did not address the issue of prioritization among various types of deteriorated or aging assets.

PG&E notes that many of the allegations in this Section of the Statement of Factual Basis are based upon the misconception that while "the capital budget for the electric transmission division of PG&E was funded through customer rates which were determined by FERC 'rate cases'", "[t]he expense budget was funded by the company". (*Id.*) In fact, utility rates are set to permit recovery of both capital investments and expenses. PG&E is permitted to

1 seek, and has sought, rate recovery not only for its capital projects, but also for the costs of  
 2 expense work on its transmission assets, including routine repairs and maintenance. PG&E  
 3 typically seeks recovery of such costs under the broad FERC category of Operations &  
 4 Maintenance (“O&M”).

5 For example, in its last three rate cases filed before the Camp Fire, Transmission  
 6 Owner (“TO”) Tariff rate cases TO 18, TO 19 and TO 20, PG&E sought FERC authorization to  
 7 recover the costs of routine transmission repairs and maintenance, as documented in written  
 8 testimony submitted with each filing. (*See, e.g.*, TO 18, Ex. PGE-0006 (July 29, 2016) at 1  
 9 (testimony “to demonstrate that PG&E’s expense forecasts for ET Operations and Maintenance  
 10 (O&M) expense are reasonable and should be approved by the Federal Energy Regulatory  
 11 Commission”); TO 19, Ex. PGE-0008 (July 26, 2017) at 2 (“testimony . . . to support PG&E’s  
 12 Period II (2018) expense forecasts for Transmission Operations and Maintenance (O&M)  
 13 expense”); TO 20, Ex. PGE-0006 (Oct. 1, 2018) at 2 (“testimony explain[ing] how PG&E’s  
 14 proposed formula rate determines the transmission O&M expense component of the Prior Year  
 15 Transmission Revenue Requirement (TRR) in this twentieth Transmission Owner (TO20) Tariff  
 16 Application”).) PG&E has sought authorization to recover O&M expenses in FERC rate cases  
 17 dating back to 1998.

18 Accordingly, PG&E denies any allegations in the Statement of Factual Basis that  
 19 proceed from the mistaken premise that PG&E cannot seek or has not sought FERC  
 20 authorization to recover costs incurred for routine transmission repairs or other work charged to  
 21 expense accounts, including any allegation that PG&E improperly or inappropriately  
 22 “bootstrapp[ed] expense budget projects on to capital budget projects”, (SOFB at 55); “achieved  
 23 expense budget cost savings by reducing the thoroughness of inspections and patrols”, (*id.*);  
 24 “look[ed] for ways [to] charge expense budget projects to the capital budget”, (*id.*); or “blur[red]  
 25 the lines between repair and replace to allow some repairs to be charged to the capital budget”,  
 26 (*id.*).



1 Based on a review of his grand jury transcript, PG&E denies the accuracy of the  
 2 paraphrase of testimony by a former Transmission Line Supervisor that his district was  
 3 “constantly under pressure to limit the hours necessary to complete thorough inspections and  
 4 patrols”. (*Id.* at 53.)

5 Based on review of the grand jury transcript, PG&E denies the accuracy of the  
 6 following paraphrase of the testimony of a former Maintenance & Construction engineer:

7 “When asked about these emails, the former M&C Engineer  
 8 denied he was instructed to find ways to capitalize the money  
 9 already spent and asserted that he was lying in the emails in order  
 10 to get necessary work done quickly. As to the 2013 and 2014  
 11 emails, he stated the recipient of the emails, the Transmission Line  
 12 Supervisor at Table Mountain Headquarters, distrusted engineers,  
 13 so he lied and put blame on Asset Management in order to avoid  
 14 argument. When asked about the 2016 email, which was directed  
 15 to an engineer in Asset Management, the former M&C Engineer  
 16 replied that the Sr. Director of Transmission Asset Management  
 17 was not involved in the project and he invoked the name of the  
 18 Sr. Director of Transmission Asset Management to speed up the  
 19 process. This person is the same former M&C Engineer who  
 20 wrote the original AA and the approved AA and now claims that  
 21 his description of the condition of the relevant Caribou-Palermo  
 22 line structures and conductor was unsupported and exaggerated for  
 23 the purpose of securing funding for the project.”

24 (*Id.* at 57.)

25 PG&E denies that “[t]he evidence established the maintenance/repair/replace  
 26 budget was primarily based upon ‘reliability metrics’”. (*Id.* at 52.) While reliability was an  
 27 important and appropriate factor in PG&E’s decision making, no evidence is cited in support of  
 28 this statement. PG&E weighed a variety of factors in its decision-making process, including  
 asset condition, public safety, inspection and maintenance history, operating environment and  
 reliability impacts.

This Section of the Statement of Factual Basis quotes from emails sent by a  
 Maintenance & Construction engineer between 2013 and 2016, an email sent by a civil engineer  
 in 2018, and an email sent by “a manager in Business Finance” in August 2016, all relating to a  
 project to relocate 10 towers on the Caribou-Palermo Line. (*Id.* at 53-55.) These towers were



not involved in the Camp Fire. Without additional investigation, PG&E does not have a sufficient basis to admit or deny the accuracy of the interpretations of, or inferences drawn from, those emails. In addition, this Section of the Statement of Factual Basis paraphrases and draws inferences from the Butte County District Attorney's interviews of "a former employee of the PG&E Business Finance Department" and "Transmission Line Supervisors and Superintendents". (*Id.* at 53.) Without additional investigation or records of the interviews, PG&E does not have sufficient information to admit or deny the accuracy of the paraphrased statements or the inferences drawn from the interviews.

**B. Capital Budget and Comparative Risk Analysis (RIBA)**

PG&E admits that in 2014 it began using Risk-Informed Budget Allocation ("RIBA") to prioritize funding for capital projects based on risk. Subject-matter experts worked with the RIBA team to assign projects RIBA scores based on the safety, reliability and environmental risks associated with continued operation of the relevant assets in their current state. These risk scores accounted for the likelihood and impact of the worst probable event that may occur if the project was not completed as proposed. As part of a standard calibration process, RIBA scorers presented their methodology and findings to the broader RIBA team to ensure standard application of the scoring matrix and consistent scoring across the distribution and transmission portfolios and within each of the project categories.

PG&E admits that RIBA scores depended, in part, on judgments as to the safety, reliability and environmental risks associated with the projects under consideration. PG&E denies the generalized allegations in the Statement of Factual Basis that it abused, "manipulated" or knowingly tolerated manipulation of the RIBA scoring process. PG&E also denies that RIBA scorers engaged in a "manipulation of facts" to justify RIBA scores, (SOFB at 61); that risk scores "are easily manipulated", (*id.*); that the "2014 RIBA process exposes the manipulation of comparative risk analysis by PG&E personnel", (*id.* at 62); that "[t]he inherent weakness of comparative risk analysis is its subjective nature", (*id.*); and that "[d]ata can be manipulated to achieve a desired result", (*id.*). Contrary to these allegations, PG&E conducted multiple

1 calibration sessions to minimize individual variations in the RIBA scoring process and drive  
2 more consistent RIBA scores.

3 PG&E denies the following statement:

4 “RIBA scoring determined whether a project that is not mandated  
5 by a regulator was funded for the coming year, RIBA scoring and  
6 ranking was independent from and occurred after a project had  
7 been included in a FERC rate case. Based upon the evidence,  
8 projects were used in FERC rate cases to justify rate increases and  
9 then, later, not funded because of a low RIBA score.”

10 (*Id.* at 58.) Projects generally received initial or calibrated RIBA scores prior to the TO rate  
11 cases in which they were included. Projects originally included in a rate case may be  
12 reprioritized or remain open in the year recovery is sought for a variety of reasons unrelated to  
13 their RIBA scores, including permitting, engineering and environmental issues.

14 PG&E does not have sufficient information to admit or deny the allegation that it  
15 was “highly motivated to complete the TL Relocate 10 Towers project in order to be able to  
16 charge the budget overruns, money already spent, to the capital budget”. (*Id.* at 61.) The towers  
17 considered for relocation were situated many miles away from the tower at which the Camp Fire  
18 ignited. Accordingly, this project was not a focus of PG&E’s investigation. As explained in  
19 prior filings, PG&E ultimately determined that the project was unnecessary because the towers  
20 could reasonably be accessed through additional roadwork, and the condition of the towers could  
21 be addressed through maintenance. (Dkt. 1078 at 28.)

22 This Section of the Statement of Factual Basis also includes the opinions that  
23 “any[] or all of those poles” comprising the shoo-fly on the Caribou-Palermo Line “could  
24 reasonably be expected to fall down within a year”, (SOFB at 61), and that the Butte County  
25 District Attorney was unable to locate records to “support” the testimony of certain PG&E  
26 personnel, (*id.* at 60). PG&E disagrees with these non-factual statements of opinion, which are  
27 not supported by the record.  
28

1           **C.     Transmission Asset Management**

2           PG&E denies that “until 2017 PG&E had no consistent and comprehensive risk  
3 database or policy for evaluating risk”. (SOFB at 63.) In fact, PG&E had systems, policies and  
4 procedures in place before 2017 for evaluating risks associated with transmission assets. As  
5 noted, in 2014, PG&E began using the RIBA scoring process to prioritize capital projects on  
6 transmission lines based on evaluation of the safety, reliability and environmental risks. PG&E’s  
7 policies for evaluating risk in its transmission system prior to 2017 are described in its asset  
8 management plans and asset strategies for specific component types, which were updated  
9 periodically. For example, PG&E’s September 2015 Transmission Line Conductor Asset  
10 Strategy adopted a risk-informed strategy for conductor replacement based on factors such as  
11 age, conductor size, splice count, and location in a coastal area or region prone to snow, ice or  
12 high winds. Similarly, PG&E’s February 2015 Transmission Line Insulator Asset Lifecycle  
13 Strategy adopted a risk-informed strategy for insulator replacement based on factors such as age,  
14 line voltage, and location in a coastal region.

15           PG&E denies the inference, based on isolated uses of the phrases “run to failure”  
16 and “run to maintenance”, that “PG&E was employing a run to failure strategy on the entirety of  
17 the Caribou-Big Bend section of the Caribou-Palermo line”. (*Id.* at 67.) None of the cited  
18 documents references or recommends application of a run-to-failure strategy to the  
19 Caribou-Palermo Line. PG&E denies any implication in the Statement of Factual Basis that it  
20 intentionally allowed C-hooks or hanger plates to remain in place on transmission towers until  
21 those components broke or otherwise failed.

22           PG&E denies that “performance information played an oversized role and patrol  
23 and inspection findings were insignificant”. (*Id.* at 65.) PG&E further denies that “decisions  
24 were being made solely on asset performance information”. (*Id.*) Asset management personnel  
25 weighed a variety of factors in their decision-making process, including asset condition, public  
26 safety, inspection and maintenance history, operating environment and reliability impacts.

PG&E further denies the broad assertion that there were “years of reductions of frequency and thoroughness of patrols and inspections”. (*Id.*) Program changes from decades prior reduced the frequency of inspections, as noted above. More recently, however, “there were no changes to the frequency of inspections and patrols between . . . 2005 and 2018”, as the Statement of Factual Basis notes. (*Id.* at 25). Nor is there any evidence that PG&E sought to reduce the thoroughness of inspections that did occur. Statements to the effect that “problems were not being identified” are overbroad. (*Id.* at 65.) Problems were being identified before the Camp Fire, although inspections conducted after the Camp Fire showed that an unacceptable number had not been discovered in past inspections.

Based on review of the grand jury transcript, PG&E disagrees with the following paraphrase of the testimony of the Senior Director of Transmission Asset Management:

“Specifically he conceded that because nobody was looking for wear on cold end attachment hardware and therefor, no notifications/tags were being generated for replacement of cold end attachment hardware there were, as of November 8, 2018, no projects in the foreseeable future for the replacement of cold end attachment hardware.

(*Id.* at 66.)

“Although there were no specific plans to replace cold end attachment hardware the Senior Director of Transmission Asset Management asserted that plans were being made to perform preventative maintenance on the Caribou-Palermo line. According to the Senior Director of Transmission Asset Management, the NERC Project included non-NERC required preventative maintenance on the Caribou-Palermo line. When confronted with the Project Scope document for the NERC Project the Senior Director of Transmission Asset Management was unable to identify any non-required work. According to the Senior Director of Transmission Asset Management the non-required preventative maintenance was not included in the Project Scope document but that plans were being made to perform the preventative maintenance.”

(*Id.*)

For the reasons explained above under “Expense Budgets”, PG&E denies the allegation that PG&E inappropriately “bundled expense budget projects with capital budget projects in order to charge the expense budget costs to the capital budget project”. (*Id.* at 67.) Bundling projects for efficiency and to avoid repeated service disruptions is appropriate, and it is reasonable to structure capital projects in ways that avoid or reduce expenses.

PG&E cannot assess the various non-factual expressions of opinion and assessments of witness credibility in this Section of the Statement of Factual Basis, including the characterization of a chart as “appear[ing] to summarize PG&E TAM risk strategy”, (*id.* at 63); the characterization of something as “[t]he most relevant difference between” a 2017 chart and a 2018 chart, (*id.* at 64); the suggestion that Transmission Asset Management employees who “tended to distance themselves from the phrase [run to failure] and criticize the phrase as being undefined” were not credible, (*id.*); and the opinion that “it appears that the change from failure to maintenance was semantical only”, (*id.*). To the extent such statements include factual content, PG&E denies them as without sufficient support in the record.

## **XII. SAFETY, RELIABILITY AND ENVIRONMENT**

PG&E denies that “[t]he evidence . . . contradicted [the] assertion[s]” of PG&E employees that safety was the most important consideration to PG&E employees. (SOFB at 67-68.) The evidence cited does not support that conclusion.

PG&E denies that 115 kV structures “are never subjected to climbing inspections”. (*Id.* at 68.) The Statement of Factual Basis acknowledges that 115 kV structures are subject to climbing inspections as triggered by specific events and that “climbing crews from the PG&E Tower Department climbed and inspected 80 towers on the Caribou-Palermo line” in the three months preceding the Camp Fire. (*Id.* at 46.)

PG&E further denies the statement that “[w]hen asked why special treatment was afforded to Bay Area steel towers but not steel towers along the Sonoma, Mendocino, Humboldt, Monterrey and San Luis Obispo coasts, TAM personnel were unable to explain the difference.” (*Id.* at 68.) A former transmission executive and the Senior Director of Transmission Asset

1 Management gave evidence that Bay Waters towers experienced levels of corrosion not seen in  
2 other areas.

3 PG&E denies that the events described in “a 2018 PG&E Lab Report on the  
4 hanger plates from the Parkway-Moraga 230 kV transmission line” exemplified “disparate  
5 treatment based upon reliability metrics”. (*Id.*) There is no evidence that PG&E’s proactive  
6 replacement of worn hanger plates on the Parkway-Moraga 230 kV Transmission Line was  
7 “based upon reliability metrics”. The Transmission Line Maintenance and Construction  
8 Supervisor who oversaw the work testified that the hanger plates were identified for replacement  
9 during routine maintenance.

### 10 **XIII. RISK MANAGEMENT**

#### 11 **A. Risk of Equipment Failure**

12 PG&E denies the following summary of the Quanta Report in this Section of the  
13 Statement of Factual Basis:

14 “In summary, the Quanta reports stated wear is a product of age  
15 and failure is a product of wear. All of the complex statistical  
16 analysis in the Quanta reports boiled down to the fact a large  
17 percentage of PG&E’s transmission assets were very old and  
18 needed extra attention. Despite hiring Quanta to assess and  
19 analyze its transmission assets and make recommendations, PG&E  
20 ignored those recommendations. . . . None of the former  
21 committee members could recall who made the decision to  
22 disregard the recommendations of Quanta or why.”

23 (SOFB at 70.) PG&E denies this characterization of the Quanta Report as overly simplified and  
24 refers to the Quanta Report itself for Quanta’s findings. PG&E did not make a “decision to  
25 disregard the recommendations of Quanta” or “ignore[] those recommendations”. (*Id.*) The  
26 Statement of Factual Basis acknowledges that “in 2010 a committee was assigned to review and  
27 comment on the Quanta reports”, and that the Senior Director of Transmission Asset  
28 Management at the time used and cited “information from the Quanta reports . . . in numerous  
subsequent TAM documents”. (*Id.*) As recounted by the Senior Director of Transmission Asset  
Management, PG&E ultimately determined that incorrect statistical analysis in the Quanta

1 Report diminished its usefulness, that further industry benchmarking should be done, and that  
 2 more robust analysis was needed to build the case to PG&E’s regulators for replacement of aging  
 3 infrastructure. (*See id.*)

4 PG&E admits that it “was aware of the risk of equipment failure causing  
 5 conductor failure or ‘wire down events’” and “the causal relationship between fire and  
 6 equipment failure on transmission towers”, but denies that “[t]he undated draft Transmission  
 7 Overhead Conductors [report] established that at least one person within PG&E TAM was aware  
 8 that inspections and patrols being done pursuant to the ETPM were doing very little to identify  
 9 and prevent equipment failures”. (*Id.* at 72-73.) The Statement of Factual Basis quotes a  
 10 passage in the referenced document that reads: “Inspections are not preventing equipment  
 11 failure due to wear, corrosion and other factors on conductors and associated equipment  
 12 (splices).” (*See id.* at 70.) However, the next sentence in the document clarified that  
 13 “[i]nspections are identifying vegetation issues and equipment needing repair or vandalized”.

#### 14 **B. Risk of Fire**

15 PG&E denies the assertion that “[d]espite all of this knowledge PG&E did  
 16 absolutely nothing to identify and replace the worn hardware essential to keeping the conductor  
 17 safely in the air”. (SOFB at 74.) As explained in PG&E’s prior filings, (*see* Dkt. 1128 at 7-8),  
 18 reports of wear on C-hooks and hanger plates were infrequent before the Camp Fire, and PG&E  
 19 followed up on instances of wear that were reported.

20 PG&E denies that the “extensive fire mitigation efforts” listed in the 2017 Risk  
 21 Assessment and Mitigation Phase (“RAMP”) Report did not “directly address[] the risk of  
 22 connecting hardware failure.” (*Id.* at 73.) As noted in the referenced RAMP Report, the  
 23 “Overhead Conductor Replacement” mitigation identified in the RAMP as a fire mitigation  
 24 measure for 2016 “reduces exposure primarily to the Equipment Failure – Conductor and  
 25 Equipment Failure – Connector/Hardware risk drivers”.



1 **XIV. SAN BRUNO FIRE**

2 PG&E acknowledges that the method it frequently used to inspect gas  
3 transmission lines at the time of the San Bruno explosion—External Corrosion Direct  
4 Assessment, or ECDA—was the least expensive of the available inspection methods. PG&E  
5 also recognizes that ECDA is not designed to detect manufacturing defects. However, PG&E  
6 believes that the characterization of ECDA as “not designed to actually detect pipe integrity  
7 flaws that would require immediate and costly repair or replacement” is not accurate. (SOFB  
8 at 75.) ECDA is used to detect external corrosion, which is one component of pipe integrity, and  
9 operators must take specific actions based on the results of ECDA assessments, ranging from  
10 immediate excavation to monitoring.

11 PG&E denies that “the evidence established” that “PG&E never made any effort  
12 to examine, evaluate and catalogue the line components” on the Caribou-Palermo Line. (*Id.*)  
13 Prior to the Camp Fire, the Caribou-Palermo Line was subject to multiple inspections and patrols  
14 during which components were examined and evaluated. In addition, PG&E cataloged splices  
15 on the Caribou-Palermo Line conductor and recorded changes in conductor size and type in  
16 various locations.

17 PG&E denies the following statements:

18 “Prior to the Camp Fire, for the Caribou-Palermo line PG&E  
19 utilized the least expensive inspection method (air patrols) in a  
20 manner guaranteed not to detect any problems that would require  
21 immediate and costly repairs. Because troublemen were not  
22 finding safety problems requiring repairs, PG&E was able to  
devote capital budget funds to projects focused on improving  
reliability metrics.”

23 (*Id.*) There is no evidence that PG&E selected an inspection method “guaranteed not to detect  
24 any problems that would require immediate and costly repairs”. PG&E’s aerial patrols did detect  
25 problems and lead to repairs, and PG&E did not rely exclusively on such patrols. PG&E also  
26 performed detailed ground inspections at regular intervals and infrared patrols to identify  
27 conditions not visible during ground or aerial inspections. PG&E disagrees with the statement  
28



that “troublemen were not finding safety problems requiring repairs”. Although enhanced inspections after the Camp Fire identified problems that past inspections did not, it is not the case that inspections before the Camp Fire identified no problems.

#### **XV. BUTTE FIRE**

PG&E denies the following statements in this Section:

“Much like the Camp Fire investigation, the evidence uncovered during the Butte Fire investigation established as a result of reductions of the vegetation management budget, the written vegetation management policies were not being followed; vegetation management inspections and patrols were being conducted by unqualified, untrained, inexperienced personnel; and PG&E was instructing those tree inspectors to ignore all but the most dangerous conditions. Additionally the evidence established PG&E had no quality assurance programs to monitor and evaluate the vegetation management program. As with the transmission inspection and patrol policies in effect at the time of the Camp Fire, PG&E relied solely on the observations of unqualified, untrained and inexperienced inspectors to identify dangerous conditions.”

(SOFB at 76.) In the year preceding the Butte Fire, the area of origin was inspected five times, including as recently as two months before the fire. On each of those occasions, well-trained and experienced inspectors determined that the subject tree—located many feet away from power lines—was green and not a hazard. PG&E also disagrees that it “had no quality assurance programs to monitor and evaluate the vegetation management program”. (*Id.*) PG&E did have a Quality Assurance program for vegetation management at the time of the Butte Fire.

#### **XVI. DROUGHT AND WIND**

PG&E became aware before the Camp Fire that Northern California faced a heightened risk of catastrophic wildfires driven, in substantial part, by extreme weather, extended drought and climate change. PG&E also was generally aware before the Camp Fire of higher-than-average winds in the Feather River Canyon and the potential for high winds to damage electric assets, but disagrees with the characterization that it “knew that the Feather River Canyon was a drought ravaged tinderbox”. (SOFB at 81.)

1 This Section of the Statement of Factual Basis includes various weather-related  
2 opinions of Kris Kuyper, a meteorologist retained by the Butte County District Attorney.  
3 Without further investigation, PG&E is not in a position to agree or disagree with Mr. Kuyper's  
4 opinions.

5 The Statement of Factual Basis states that "in 2013 PG&E published the 'Wild  
6 Fire Administrative Zones in PG&E's Service Area' map" and that "[a]pproximately 85 towers  
7 on the Caribou-Palermo line between the Butte-Plumas County line and the Big Bend Substation  
8 were included on the list". (*Id.* at 77.) PG&E drew up the Wild Fire Administrative Zones to  
9 identify lines its service territory at higher risk of wildfire. The Wild Fire Administrative Zones  
10 predated the CPUC and CAL FIRE's joint development of the High Fire-Threat District  
11 ("HFTD") area map that today guides PG&E's wildfire mitigations. The Wild Fire  
12 Administrative Zones consisted of Urban Wild Fire ("UWF"), Other Wild Fire ("OWF") and  
13 "Santa Barbara Wild Fire" ("SBWF") Areas. The Statement of Factual Basis states that  
14 "Tower [:]27/222 for some unknown reason was not on the list". (*Id.* at 77-78.) PG&E clarifies  
15 that Tower :27/222 did not appear on the list of Wild Fire Administrative Zones because it was  
16 not within the UWF, OWF or SBWF Areas. By contrast, the Caribou-Palermo towers included  
17 on the list were situated in the OWF Area, as determined by a multi-factor relative risk score.

18 PG&E denies the statement that "the towers of the Caribou-Palermo line were  
19 routinely subjected to winds at or near their design criteria". (*Id.* at 81.) The Statement of  
20 Factual Basis states that the Caribou-Palermo "towers were designed to withstand winds of  
21 approximately 56 miles per hour" and that "[f]rom 2013 to 2019 the Jarbo Gap RAWS station  
22 recorded wind gusts over 50 miles per hour over 60 times". (*Id.*) But there is no basis to  
23 conclude that, for example, Tower :27/222 on the Caribou-Palermo Line experienced the same  
24 wind speeds, which vary based on topography, as those recorded at the Jarbo Gap weather  
25 station miles away.

26 PG&E denies that it "never inspected or tested any of the towers or components  
27 for wind damage" or "chose not to replace the aged and deteriorating conductor and components  
28

on the Caribou-Palermo line”. (*Id.* at 81-82.) PG&E’s numerous inspections and patrols of the Caribou-Palermo Line were intended to identify damage to towers and components, including damage caused by wind. Any suggestion that PG&E knew of and refrained from replacing equipment that needed to be replaced is not accurate.

## **XVII. PUBLIC SAFETY POWER SHUTOFF**

PG&E admits that, at the time of the Camp Fire, transmission lines operating at 115 kV and above were not within the scope of PG&E’s Public Safety Power Shutoff (“PSPS”) program. Following the Camp Fire, PG&E has expanded its PSPS program so that overhead power lines at all voltage levels, including 115 kV lines, are now considered for proactive de-energization.

PG&E disagrees with the following non-factual statement of opinion in this Section of the Statement of Factual Basis: “After comparing the PSPS guide published on the website with the actual PSPS policy, it appears the authors of the public PSPS guide, in an effort to make the guide understandable to the average PG&E customer, simplified the policy to an extent that became misleading.” (SOFB at 82-83.) The referenced PSPS guide conveyed accurate, basic and non-technical information of relevance to PG&E customers. PG&E does not believe it was misleading.

PG&E denies the hypothetical and non-factual statements of opinion concerning what would or should have happened on November 8, 2018 if the Caribou-Palermo Line were within the scope of the PSPS program, including the statement that “conditions in the Feather River Canyon in the hours prior to the failure of the C hook on Tower [:]27/222 exceeded the wind conditions necessary for de-energization under the publicly posted PSPS guidelines”. (*Id.* at 82.) The Caribou-Palermo Line was not within the scope of PG&E’s PSPS program in 2018.

PG&E denies that “PG&E did not provide any written documents explaining or justifying [its] decision” to exclude 115 kV transmission lines from the PSPS program. (*Id.* at 83.) PG&E produced contemporaneous presentations, emails and other documents to the Butte

County District Attorney that explained PG&E's rationale at the time for excluding 115 kV transmission lines from the scope of its PSPS program.

### **XVIII. KNOWLEDGE OF RISK/CONSEQUENCE**

PG&E admits being aware before the Camp Fire "that equipment failure (risk) causes fires". (SOFB at 83.) PG&E also was aware of "the connection between aging infrastructure and equipment failure", and for that reason sought authorization from its regulators to set rates at levels adequate to support replacement of aging infrastructure over time. (*Id.* at 85.) PG&E admits that, beginning in at least 2006, its Enterprise Risk Management Committee explored a number of initiatives to reduce the fire risk presented by aging assets, including replacement and inspection of high-risk equipment in high-risk areas. PG&E further admits that it identified the Urban Wildland Interface Area—where structures and human development meet with wildland and vegetative fuels—as a particular geographic area in which to concentrate its efforts.

PG&E has insufficient information to admit or deny the following statements concerning the Murphy Fire:

"The Murphy Fire was caused by the failure of a connector on a tower on the Caribou-Table Mountain 230kV transmission line. In both fires the failure of a connector allowed an energized jumper conductor to make contact with the steel tower structure and sent a shower of molten metal onto dry vegetation at the base of the tower.

"The Murphy Fire occurred on August 6, 2018. The origin of the fire was directly below a PG&E transmission tower – not the Caribou-Palermo line – just west of Belden in the Feather River Canyon. The fire was caused by equipment failure – specifically failure of a connector – which allowed an energized 230kV conductor to come into contact with steel tower structure."

(SOFB at 85 & n.144.) The cause of the Murphy Fire is listed as "Unknown" on CAL FIRE's website. Equipment collected from the tower of interest remains in the possession of the United

1 States Forest Service and PG&E is not in a position to admit or deny the conclusions in this  
 2 Section regarding the alleged cause of the fire.<sup>3</sup>

3 PG&E denies the following statements:

4 “The evidence developed during this investigation clearly  
 5 establishes that PG&E essentially ignored the recommendations of  
 6 the Quanta Reports. PG&E did not adopt any new policies or  
 7 procedures for inspection of the oldest transmission assets. There  
 8 is no evidence of a programmed sampling of the oldest structures  
 and foundations. Even the collapse of five Caribou-Palermo line  
 structures in 2012 did not cause PG&E to take a closer look at one  
 of their oldest transmission assets.”

9 (*Id.* at 87.) PG&E did not “ignore the recommendations of the Quanta Reports”. As noted in the  
 10 Statement of Factual Basis, it convened an internal committee to consider the recommendations  
 11 and ultimately determined that further and better analysis was necessary for effective asset  
 12 management decisions, as explained above.

13 PG&E admits that it was “aware that wear increases with age, the possibility of  
 14 equipment failure increases relative to the amount of wear, and ignition of a fire is a definite  
 15 possible consequence of equipment failure.” (*Id.* at 89.) As stated in prior filings, PG&E was  
 16 aware before the Camp Fire that cold-end hardware, like many transmission line components,  
 17 wears at least to some degree with age. (Dkt. 1146 at 17.) PG&E was also aware that age is but  
 18 one of a number of factors that influence wear and the overall condition of cold-end hardware  
 19 and other tower components. (*Id.*) The occasions on which PG&E records noted wear on  
 20 C-hooks or working eyes were limited in the context of the overall number of such components  
 21 in PG&E’s system, and PG&E followed up on identified issues. (Dkt. 1128 at 10-11.)

## 22 **XIX. ELEMENTS OF THE OFFENSES**

23 PG&E does not dispute the recitation of elements of offenses in this Section.  
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 27 <sup>3</sup> PG&E clarifies that it did not include the Murphy Fire in its December 2018 filing with the  
 28 Court because then, as now, the cause of the Murphy Fire and the role of PG&E’s equipment in  
 that ignition had not been determined.

**XX. DUTY**

PG&E does not dispute the recitation of legal duty in this Section.

**XXI. CONCLUSION**

The Conclusion sets forth the District Attorney's arguments, opinions, inferences and legal conclusions based on various factual assertions that PG&E has either admitted or denied in the preceding Sections. PG&E has acknowledged that it should have identified and replaced the worn C-hook that failed and started the Camp Fire, and PG&E has pleaded guilty to felony charges and accepted criminal responsibility for the Camp Fire. But PG&E disagrees with the arguments, opinions, inferences and legal conclusions set forth in the Conclusion, which PG&E respectfully believes are not supported by the evidentiary record.

With respect to factual assertions in the Conclusion that are the same as or substantially the same as factual assertions in the preceding Sections, PG&E denies those factual assertions to the same extent they are denied in those preceding Sections.

PG&E admits the following new factual assertions in the Conclusion:

- "The exact age of the C hook is unknown because PG&E has no record of the hook", (SOFB at 92);
- "The records from the Great Western Power Company establish the entire line was built between 1918 and 1921", (*id.*);
- "There are no records of when each tower was built", (*id.*);
- "A conductor is the wire that carries electricity from Point A to Point B", (*id.* at 93);
- "PG&E has owned the Caribou-Palermo line since 1930", (*id.*);
- "According to the Quanta report the average age of non-copper conductor was 36 years and the 'greatest risk of failure in transmission conductors is thought to be with the oldest steel reinforced conductors'", (*id.*);
- "[F]ailure of an energized 115kV [line] is extremely dangerous", (*id.* at 94);
- "According to the email string a PG&E Engineer correctly surmised that this wear was 'probably caused by years of rubbing between the c-hook and the plate'", (*id.*);

- 1 • “In 2018 the discovery of keyhole wear on hanger plates on the par [sic]  
2 transmission line caused enough concern that the Transmission Line Supervisor  
3 sent the plates to the PG&E lab for analysis and evaluation”, (*id.*);
- 4 • “A PG&E lab scientist, with a PhD in Material Science and Engineering, used the  
5 available data to opine the keyhole wear was occurring at a rate of .007 inches per  
6 year”, (*id.*);
- 7 • “Knowledge of the danger inherent in a C hook or hanger hole breaking is firmly  
8 established in PG&E documents. Since at least 2006, PG&E has recognized bad  
9 things, especially fire, happen when equipment failures occur on transmission  
10 lines. Everything in the overhead electric transmission system is designed to keep  
11 the conductor hanging in the air and away from persons or objects it could harm”,  
12 (*id.* at 95);
- 13 • “During the post Camp Fire inspections, worn C hooks and worn hanger holes  
14 were found throughout the PG&E Overhead Transmission System”, (*id.*);
- 15 • “Transmission Asset Management continued to cite the Quanta age data and  
16 conclusions in subsequent internal and regulatory documents for the next seven  
17 years”, (*id.* at 97);
- 18 • “According to data from the US Geological Survey three of the four worst  
19 droughts in the recorded history of California have occurred since 2001”, (*id.* at  
20 98);
- 21 • “The evidence clearly established PG&E was aware of the drought and the danger  
22 of catastrophic fire by 2013. Internal PG&E documents established that in 2013  
23 PG&E identified the Feather River Canyon as a high fire danger area”, (*id.*); and
- 24 • “Prior to 2006 PG&E had identified parallel groove connectors as a fire danger. In  
25 PG&E’s 2006 ‘Risk Analysis of Urban Wild land Fires’, the replacement of the  
26 parallel groove connectors is listed as a proposed mitigation”, (*id.*).

27 PG&E denies all other statements in the Conclusion because, as written, they are  
28 not supported by the developed record.

## 29 **XXII. SENTENCING**

30 PG&E admits that facts presented to the grand jury provide a sufficient factual  
31 basis for PG&E’s guilty plea. For reasons already stated in this submission, PG&E denies the  
32 allegations that it had a callous disregard for safety, ignored warning signs, elevated profits over  
33 safety, did the absolute minimum to mitigate fire danger, and took advantage of a position of  
34 trust. (SOFB at 101-102.) PG&E further denies the allegation that it caused the 2019 Kincadee

1 Fire. (*Id.* at 103.) The Kincade Fire remains under investigation and, to PG&E's knowledge,  
2 causation has not been determined by the grand jury or any other agency.  
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1 Dated: July 1, 2020

Respectfully Submitted,

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